

Notice of Allowability

Application No.

10/066,966

Examiner

Juan A. Torres

Applicant(s)

YUAN ET AL.

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment - After Non-Final Rejection filed on 05/31/2005.
2. ☒ The allowed claim(s) is/are 14 and 16-42.
3. ☒ The drawings filed on 15 October 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S STATEMENT FOR REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: claims 14 and 16-42 are allowed because the references cited fail to teach, as applicant has, a non-causal circuit that includes a future decision circuit having inputs connected to a mutli-threshold circuit outputs having outputs to supply a current, first bit, estimate and a third bit value; a present decision circuit having inputs to accept the first bit estimate, the third bit value, and a second bit value, comparing the first bit estimate to both the second bit value, received prior to the first bit estimate, and the third bit value, received subsequent to the first bit estimate, having an output to supply the first bit value determined in response to comparing the first bit estimates to the second and third bit values; and a past decision circuit having an input to accept the first bit value and an output to supply the second bit value, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lu (US 5896422) discloses a method and apparatus for determining the detection threshold for an information signal. Leung (US 6493329) discloses in figure 3 an adaptive non-causal channel estimator 302 in an adaptive channel estimation wireless communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
6-7-2005



MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER

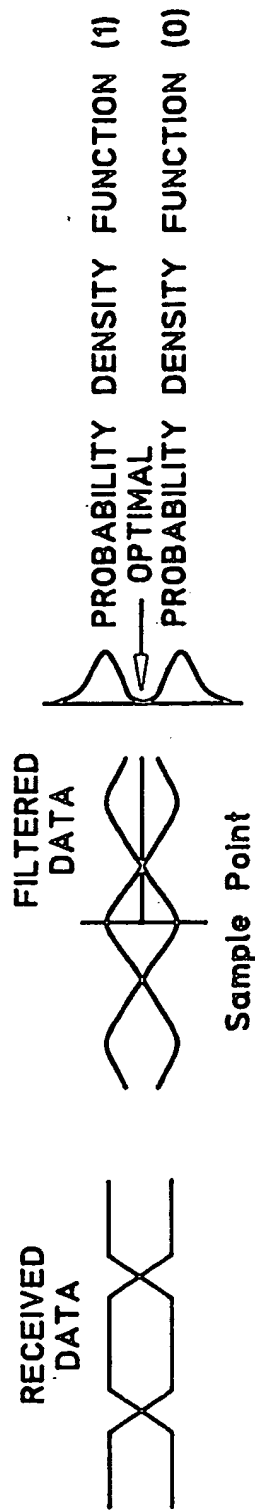


FIG. 1 (PRIOR ART)

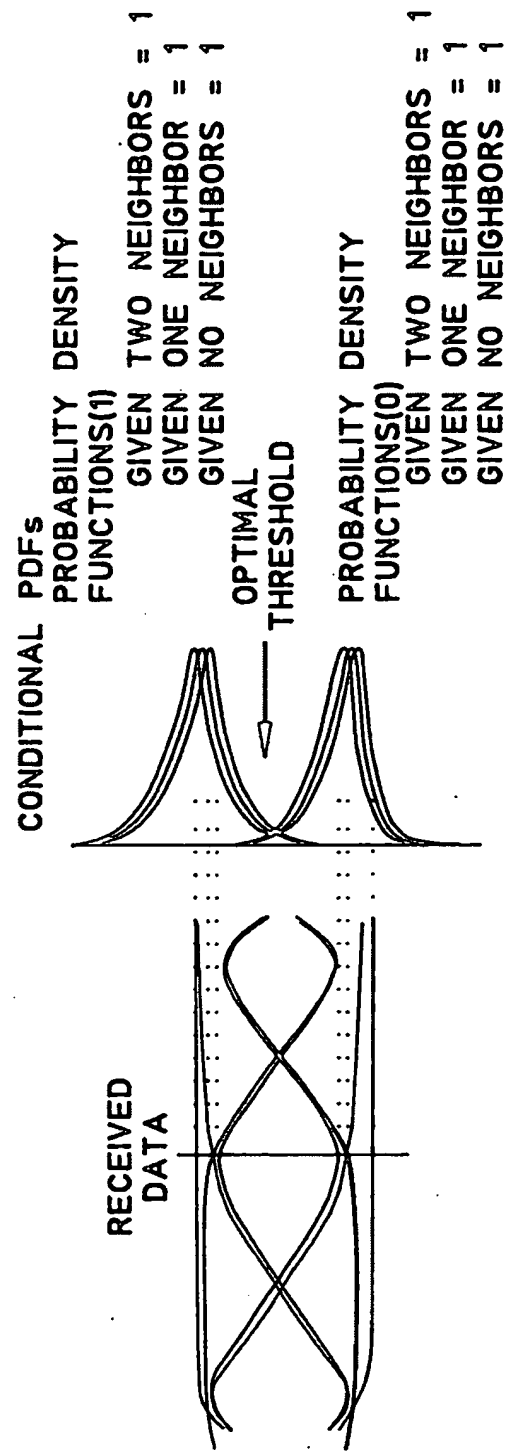


FIG. 2 (PRIOR ART)

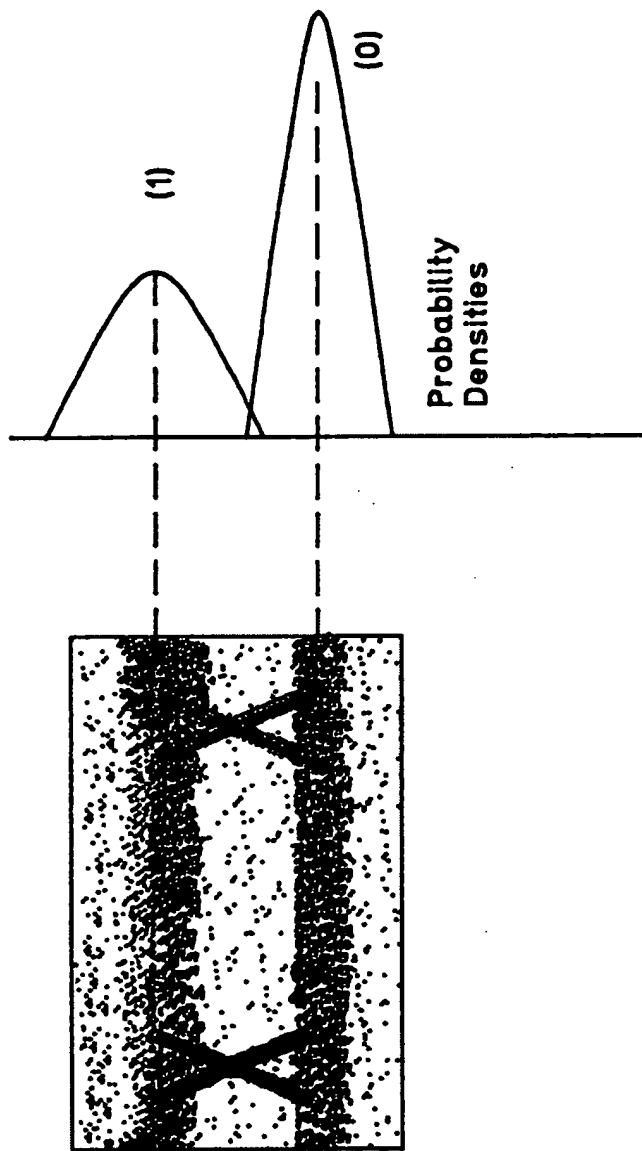


FIG. 3 (PRIOR ART)



100

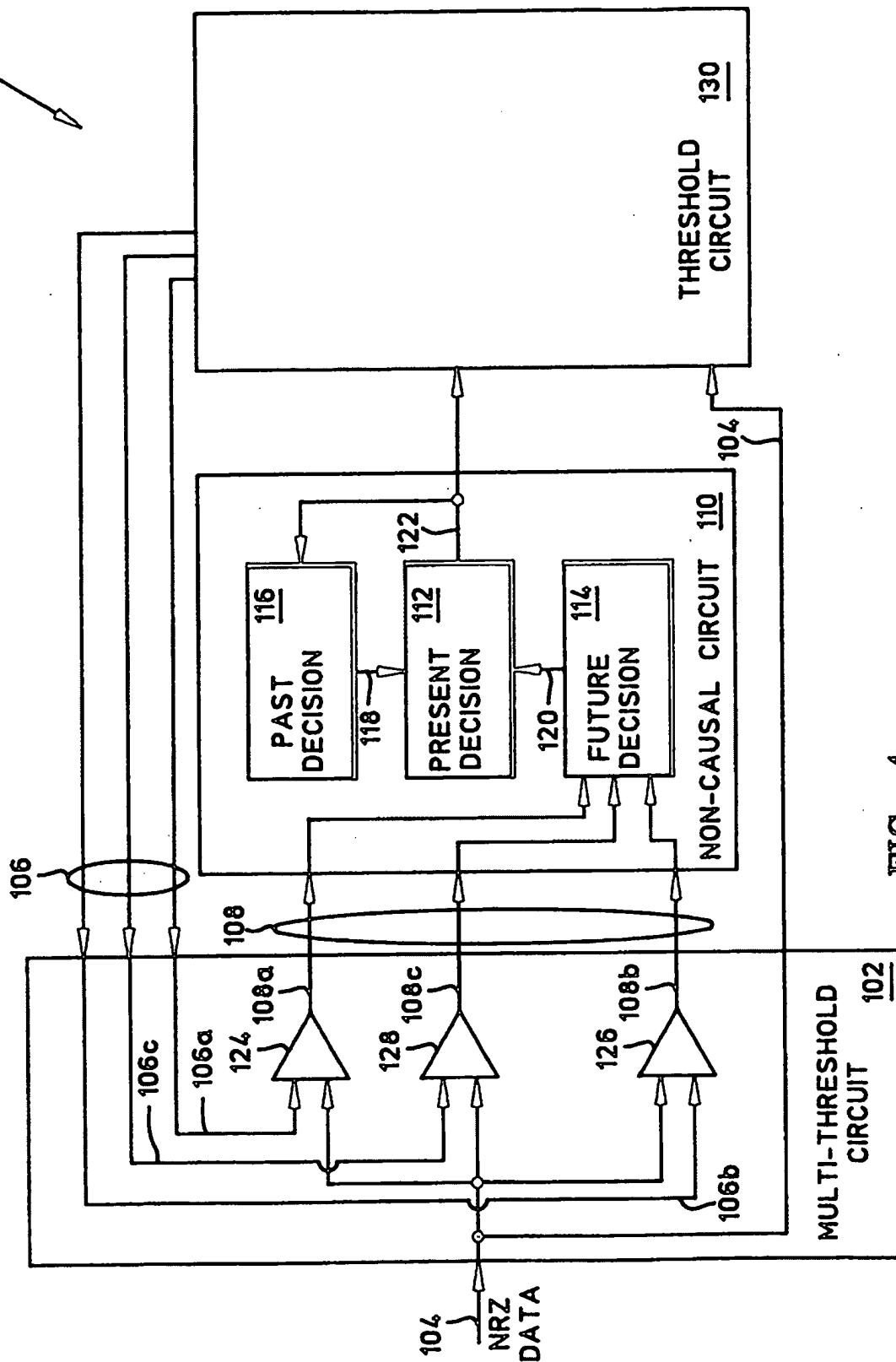


FIG. 4

NRZ DATA STREAM INPUTS

V1	DEFINITE "1"
Vopt	"0" IF BOTH 2nd AND 3rd BIT VALUE DECISIONS ARE "1"
	"1" IF ONLY ONE OF THE 2nd AND 3rd BIT VALUE DECISIONS IS A "1"
	"1" IF BOTH 2nd AND 3rd BIT VALUES ARE "0"
V0	"1" IF BOTH 2nd AND 3rd BIT VALUE DECISIONS ARE "0"
	"0" IF ONLY ONE OF THE 2nd AND 3rd BIT VALUE DECISIONS IS A "0"
	"0" IF BOTH 2nd AND 3rd BIT VALUES ARE "1"
	DEFINITE "0"

FIG. 5

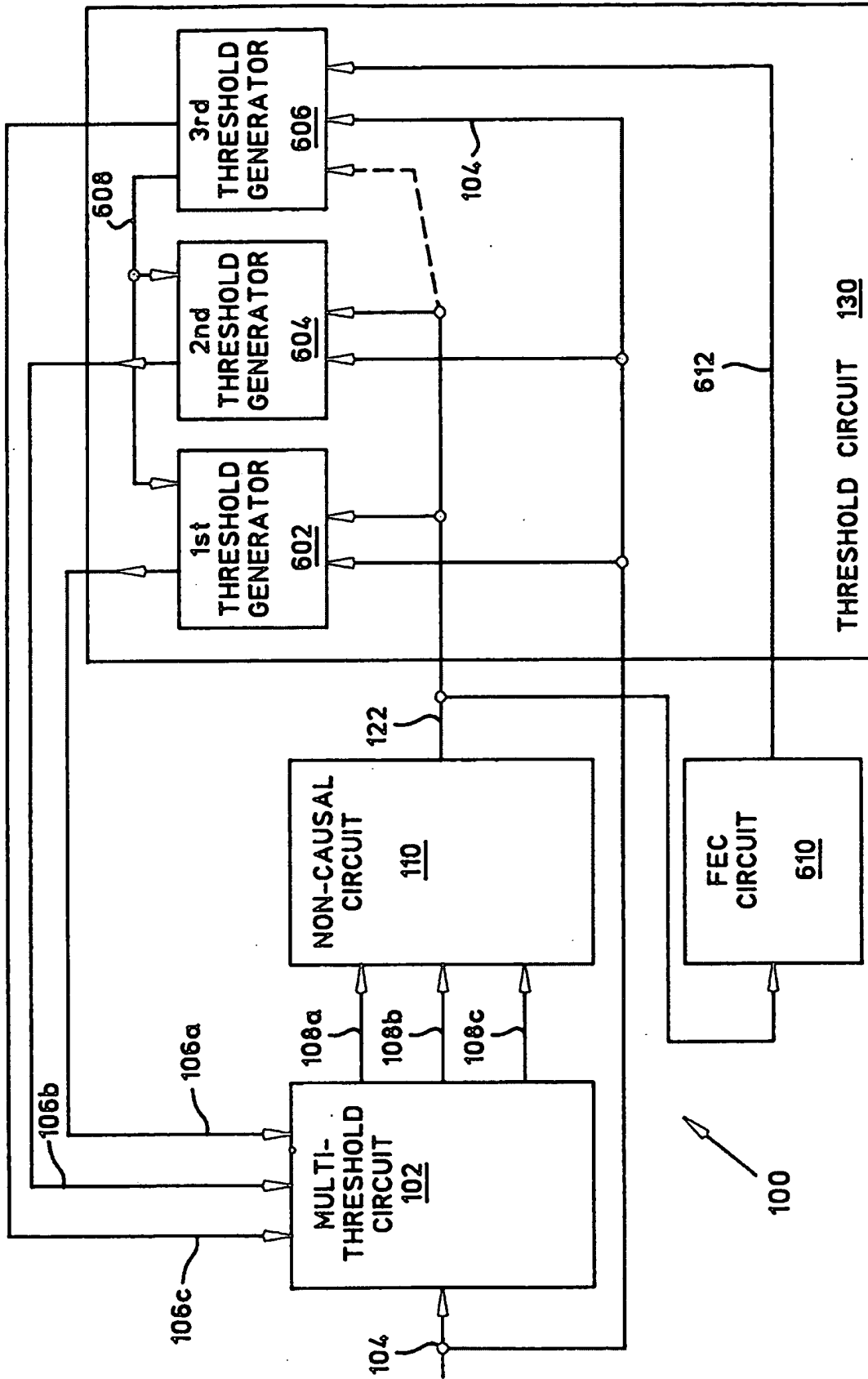
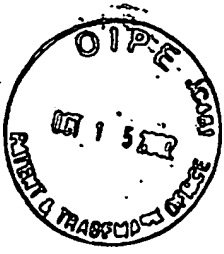


FIG. 6



110

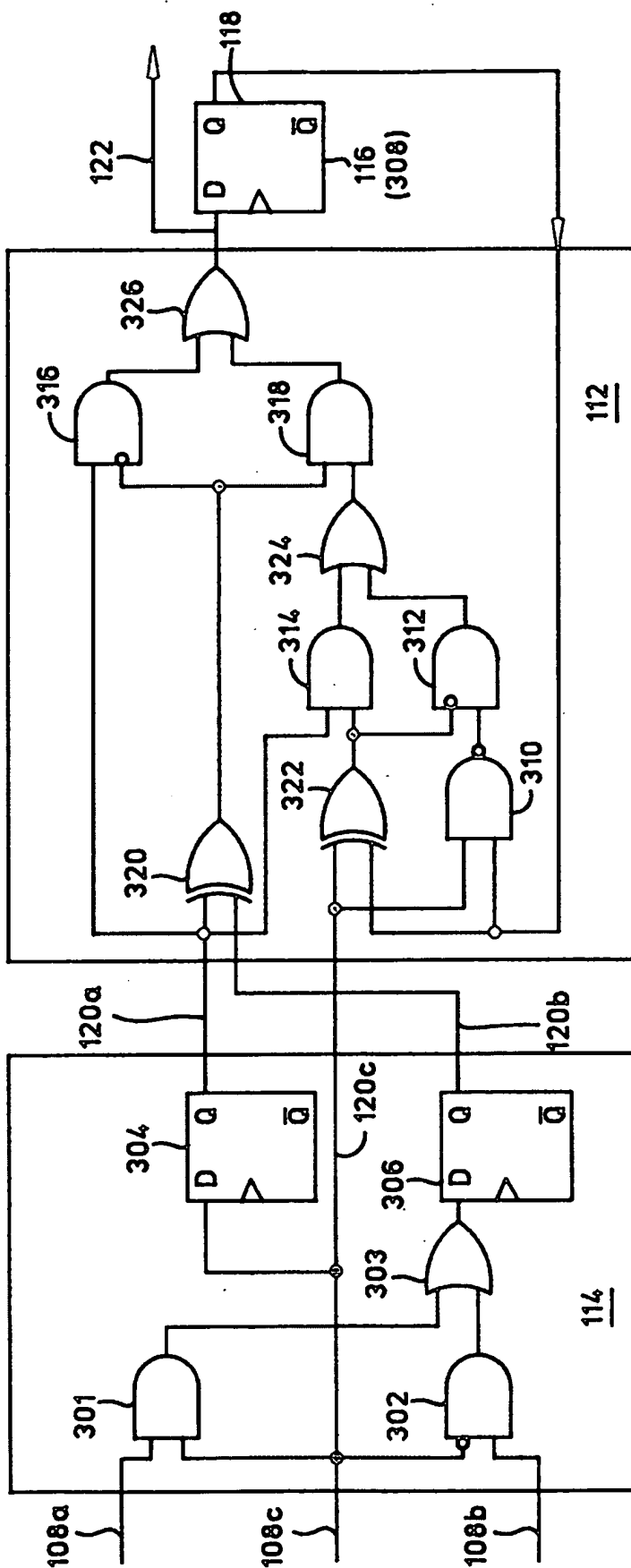


FIG. 7a



FIRST BIT		ESTIMATE		2nd BIT		3rd BIT		1st BIT	
line	120a	120b	VALUE	line	120b	VALUE	line	120b	VALUE
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0
0	0	0	1	0	1	0	0	0	0
0	0	0	1	0	1	1	0	0	0
0	0	1	0	0	0	0	1	0	1
0	0	1	0	0	0	1	0	0	0
0	0	1	1	0	1	1	0	0	0
1	1	0	0	0	0	0	1	1	1
1	1	0	0	0	0	1	1	1	1
1	1	0	1	0	1	0	1	1	1
1	1	0	1	0	1	1	0	0	0
1	1	1	0	0	0	0	1	1	1
1	1	1	0	0	0	1	0	1	1
1	1	1	1	0	1	0	1	1	1
1	1	1	1	0	1	1	1	1	1

FIG. 7b

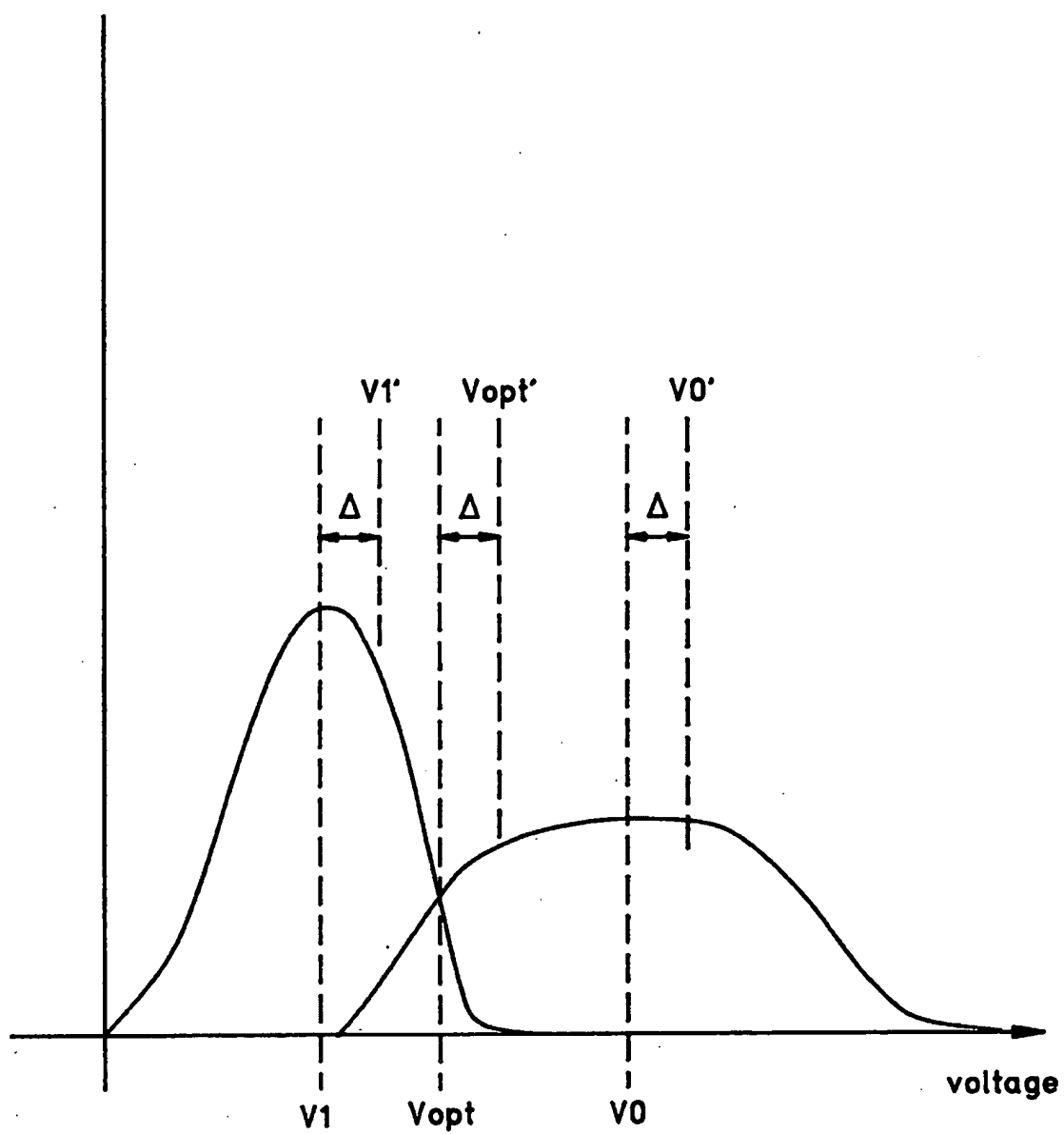
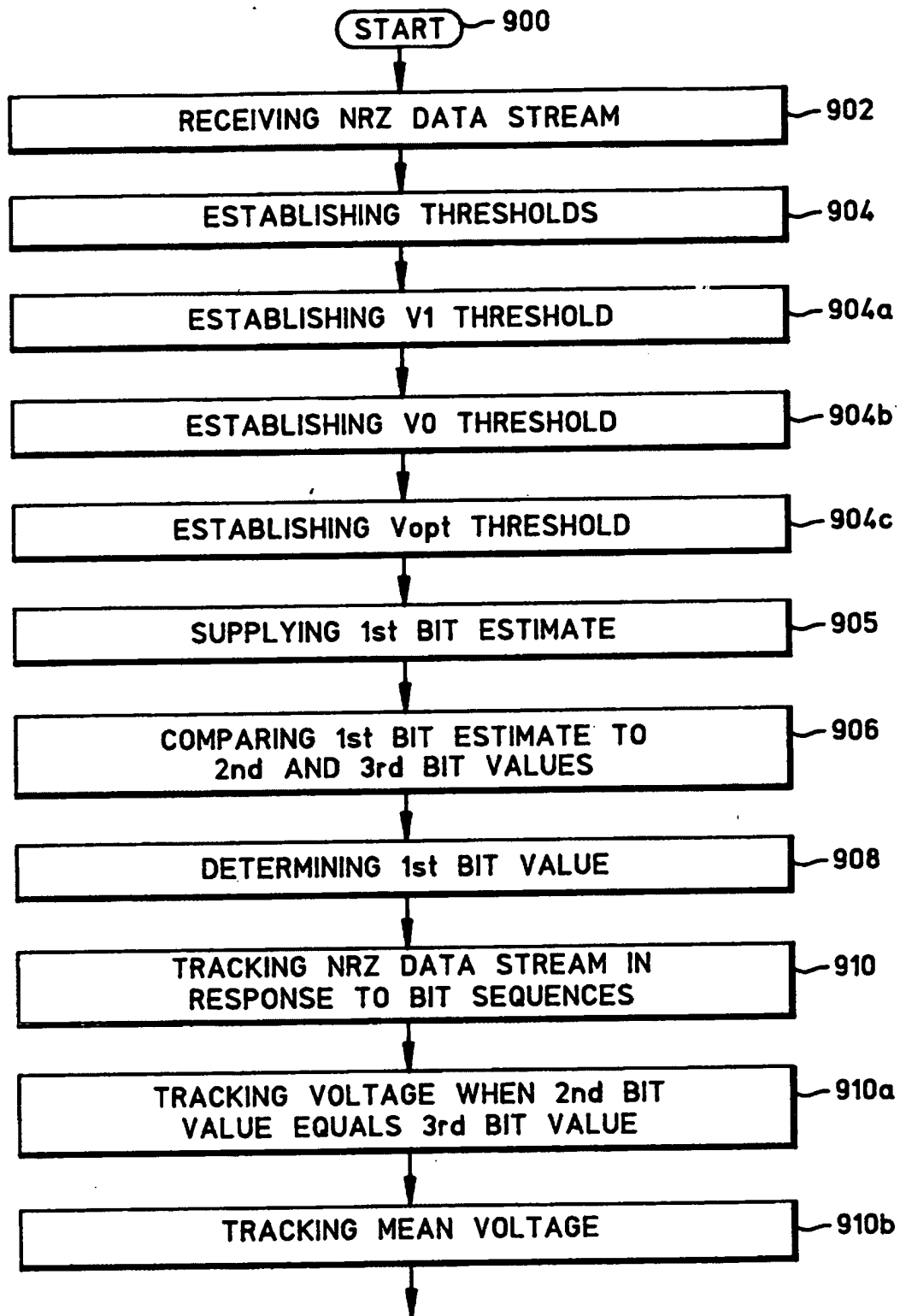


FIG. 8

OCT 15 2002
PATENT & TRADEMARK OFFICE



To Fig. 9b

FIG. 9a

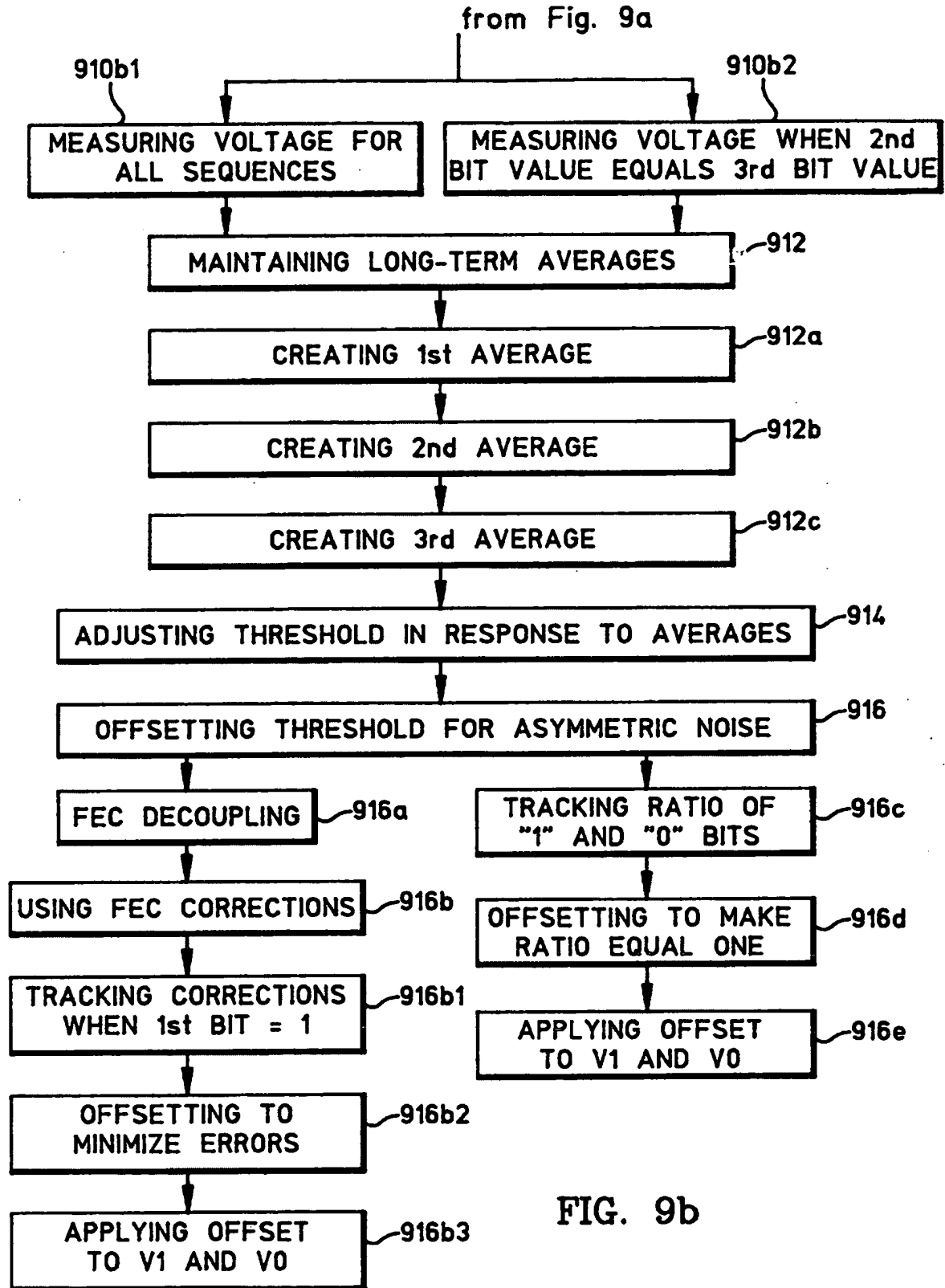


FIG. 9b

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